PGPUB-DOCUMENT-NUMBER: 20010040592
DOCUMENT-IDENTIFIER: US 20010040592 A1
TITLE: Graphical user interface for a video editing system

DETX:
[0032] One embodiment of this invention will now be described in more detail.
In this document, several terms are used to describe a video program and associated information. The following are definitions of these terms. A composition is a heterogeneous aggregation of tracks and, in one embodiment of the invention, includes five tracks: one title track, one video track, and three audio tracks. The composition is also referred to as a motion video program. One of the audio tracks is synchronized and grouped with the video track (the audio track that is captured with the video), one audio track is called a voice-over track, and the third audio track is a music track. Each track is a two part entity: a synchronized media subtrack and an effects subtrack. Each subtrack consists of a sequence of segments and holes. The media subtrack includes media segments, and the effects subtrack includes effects segments. A media segment is a portion of a media subtrack with a time-based beginning and ending. The interior of a media segment refers to a portion of a media clip. A media clip is an independent, playable entity which has duration and possibly multiple pieces of synchronized media associated with it. Media clips also have ancillary data associated with them, such as a name and description. Media is motion video media, audio media, or text media stored in a data file on a computer, for example, in a QuickTime file. A sync-lock group is a group of segments which have been grouped together for editing purposes. Editing operations will not move the components of a sync-lock group relative to each other. The video track and its corresponding

audio track may be the only sync-lock group and cannot be unlocked or unsynced.
A media segment is a video media segment, audio media segment, and text media segment, depending on which track the segment resides. A hole is a span in a track with a time-based beginning and ending which has no associated segment.
On the video track, a hole displays black. On an audio track, a hole plays silence. On the titles track, a hole displays full transparency. Relative to a point or span in the composition, upstream composition elements are located earlier in the composition and downstream composition elements are located later in the composition. The beginning of a media segment is called its incoming edge, and the ending of a media segment is called its outgoing edge.
The edges of media segments are also called transition points. A transition point has zero length. The edges of a group are transition points where a segment on one side of the transition is inside the group and any segment on the other side of the transition is outside of the group. A cut is a transition point that does not have an effect segment spanning it. At a transition point between two segments, the outgoing segment is the segment which displays before the transition point, and the incoming segment is the segment which displays after the transition point. Hence, the outgoing segment is to the left of a cut in the timeline; the incoming segment is to the right.

DETX:
[0064] After addition of special effects, such as transition effects, to the motion video program, it is common to add titles next. Operations enabling a user to add titles to the video program are provided through interface 154, such as shown in FIG. 11. While titling operations and how they are performed on motion video are known in this art, this particular interface provides an easy mechanism for adding titles. This interface includes an

editing region
200 and format selection buttons 202 and 204. Buttons 202 allow bold, italic
and underlining formatting, while buttons 204 adjust justification. Font and
size are selected via a menu style interface 206 and 208, respectively.
Additional options for scrolling are provided at 210. Scrolling can be made
left to right, right to left, top to bottom, or bottom to top. A titling
effect can be removed or applied through selection buttons 212 and 214,
respectively. This information input through this interface is used, using
known techniques, to apply the title to the video information and to display
the effect in the display region 172. However, the video data file of the clip
to which it is applied is not modified. The titling information may be finally
applied, for example, only when the video program is output in final form. In
this way, titles may be added and removed more easily.

CLTX:
1. A computer program product, comprising: a computer readable medium storing
computer program instructions for a computer program that facilitates editing
of a motion picture using motion video data on a computer, wherein the computer
program, when executed by a computer provides a graphical user interface,
comprising: a viewer window on a display for the computer for viewing motion
video data; a timeline region on the display and nonoverlapping with the
viewer window for displaying a timeline representing selections of the motion
video data in a temporal order that specifies the motion picture; a plurality
of selectable, mutually exclusive, interfaces on the display and nonoverlapping
with the viewer window and with the timeline region, wherein each selectable
interface is selected by user selection of one of a set of graphical elements
associated with the selectable interfaces, the selectable interfaces
comprising: an interface for allowing a user to select a clip

corresponding to
motion video data stored on the computer for placement on the timeline; a
title interface for allowing a user to specify a title for placement on the
timeline; an effect interface for allowing a user to specify an effect for
placement on the timeline; and an audio interface for allowing a user to
specify audio operations on audio data on the timeline: wherein playback of the
motion picture represented by the timeline is viewed in the viewer window and
is initiated by user selection of a graphical element indicative of a playback
operation; wherein size and position of the viewer window is substantially
unchanged by selection of one of the selectable interfaces; and wherein size
and position of the timeline region is substantially unchanged by selection of
one of the selectable interfaces.

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INVENTOR-INFORMATION:

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DATE FILED: July 11, 1996
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U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
5274758	December 1993	Beitel et al.	395/154
5307456	April 1994	MacKay	395/154
5414808	May 1995	Williams	395/154
5542023	July 1996	Sakai et al.	395/154

ART-UNIT: 272
PRIMARY-EXAMINER: Nguyen; Phu K.
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ABSTRACT:
A storage medium stores image data, audio data and processing programs

having different reproduction modes, such as recording systems or data format
are stored as stream data. When a specific data is to be read out from the
stream data, a mode discrimination data is separated from the data to generate
mode information indicative of the recording system of the data and the
algorithm for reproduction of the data on the basis of the separated mode
discrimination data. Based on the mode information, switching of mode is
performed to reproduce image data or audio data of one of the reproduction
modes among the data recorded with a plurality of mutually distinct
reproduction modes, by the processing program. If the processing program is
common for reproduction of other data recorded on the storage medium, such
processing program is previously stored for use in common for accelerating
taking up of the reproduction processing apparatus.

13 Claims, 32 Drawing figures

BSPR:
On the other hand, in the disclosure of Japanese Unexamined Patent Publication
No. JP-A-2-220584, the CD-ROM as a recording medium records, as stream data,
encoded image information in which data is compressed and encoded, the audio
data, a control program defining an algorithm for expansion and decoding of the
compressed and encoded data, and an application program to be used by a
microprocessor incorporated in the apparatus. In FIG. 2, before the processor
9 reads out the image and the audio data from the CD-ROM and outputs the data
to the display monitor 17 and the speaker 21, the application program to be
used by the processor 9 is read out from the CD-ROM.

DEPR:
In the embodiment, the read only storage device 1a stores at least one or more
compressed and encoded motion picture stream data, compressed and encoded audio
stream data and/or compressed and encoded still image stream

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